

Minutes of the TAC Meeting for the Water Reclamation and Reuse Regulations
December 5, 2006

The TAC meeting began at approximately 9:30 a.m. Dr. Ellen Gilinsky, Director of the DEQ-Water Quality Division, opened the meeting and thanked the Technical Advisory Committee (TAC) members for their commitment to the development of the Water Reclamation and Reuse Regulation. She noted that another revision of the draft regulation would be completed in January 2007 and will be circulated for one final round of comments. At that time, the focus will be on “deal breaking” issues, which will be brought to her attention. The agency wants the TAC to support the regulation that will be taken to the State Water Control Board in March 2007. With the approval of the draft regulation by the Board, there will be a 60 day public comment period. Following the public comment period, Dr. Gilinsky indicated that the TAC will be reconvened to review significant comments received by the public and to discuss DEQ’s response to those comments. One TAC member inquired about the agency’s responses to comments already submitted. Dr. Gilinsky responded that staff members continue to work on the responses.

Prior to discussing Part III of the regulation, the TAC was directed to focus on storage (9 VAC 25-740-120.C), management of pollutants from significant industrial users (VAC 25-740-150), and setbacks for spray irrigation with reclaimed water (VAC 25-740-170.G). Upon completing discussion of these sections and as time allowed, the TAC would then review other sections of Part III. The following are the comments of the TAC review.

9VAC25-740-120.C Storage requirements

- DEQ staff had received a comment from a TAC member regarding the definitions for system and non-system storage. The definitions focus on three areas: location, intent and control. System storage refers to storage at the reclamation site for reclaimed or reject water, may be temporary or part of the treatment process, and is under the control of the generator. Ponds or impoundments that are system storage are to be lined or install ground water monitoring wells. Non-system storage is not at the reclamation site, is not associated with the treatment process, and is under the control of the end uses. The exception is a storage pond that is owned by the generator who is also the end user, regardless of location. This is considered system storage.
- Discussion followed on an operational definition as opposed to a definition based on ownership. The concern about dropping ownership from the definition is that a generator who is also the end user may use the pond for disposal, even if the reclaimed water meets specifications it may have an impact to ground water. Reclaimed Water Management Plans were mentioned as the venue that would address any disposal concerns as the water balance should detail their plans for use (intent).
- One TAC member pointed out that the ownership issue and design requirements, including liner requirements, for system storage off the reclamation site (i.e., where the generator is also the end use) could be circumvented by creating a new corporation separate from the generator, to own the storage facility.
- It was noted that Virginia receives more precipitation than can be evaporated from ponds. Consequently, every unlined pond without a discharge to surface waters must be discharging to ground water or they would all be overflowing, which is not the case. DEQ staff want new system storage ponds to be designed to prevent discharges and impacts to State waters, including surface and ground waters.
- One TAC member representing the Virginia Department of Health (VDH) indicated that the discharge regulations provide some flexibility regarding design requirements for system storage

based on the quality of water being stored. The specific requirements were developed with shellfish waters in mind.

- Discussion followed on eliminating liner requirements for system storage of Level 1 water treated to BNR. In lieu of a liner, the regulation could contain an option to demonstrate permeability specifications based on native soils, or an option to perform hydrogeologic or hydrologic analysis to eliminate concerns about ponds discharging to ground water.
- Another suggestion was to establish compliance points at the property boundaries of the reclaimed water treatment plant for system storage ponds discharging to ground water. It was noted that item 6.d allowed for ground water monitoring when the liner requirements could not be met. Ground water monitoring could address impacts from ponds discharging to ground water.
- Regarding the definitions for system and non-system storage, some members felt that ownership was a problematic issue, while location was not. One TAC member suggested defining system storage as storage on or off the site of the reclamation system used to equalize flow of reclaimed water to distribution. Non-system storage could be defined as storage used to equalize reclaimed water flow immediate to end user. This approach would eliminate the need to define system storage in terms of ownership.
- DEQ staff agreed to redefine system and non-system storage as suggested by the TAC. Item 6.d will also be revised to allow other options in lieu of liner requirements for system storage. Where system storage has no liner, permeability of the naturally occurring soils at the site is too great, or a hydrogeologic or hydrologic analysis demonstrates that there will be impacts to ground, the applicant or permittee could have the option to either install a liner or perform ground water monitoring.
- A separate category of storage may need to be included in the regulation where reclaimed water from the storage facility is used by the generator of the reclaimed water on land owned by or under the same management as the generator, typically for irrigation. DEQ staff indicated that they would try to define and establish the design requirements for this new storage category.

9 VAC 25-740-150 Management of pollutants from significant industrial users

- Item B. - TAC members felt that 150 days advance notice to DEQ for new service connections to significant industrial users (SIUs) would be difficult to implement. One TAC member pointed out that a previously approved pretreatment program should not be subject to repeated evaluation by DEQ for each new SIU service connection to the sewage treatment plant. However, it was acknowledged that in general, pretreatment programs have focused on impacts to surface waters, the biological processes of the treatment works, and biosolids products for beneficial reuse, but have not evaluated impacts to human health that might result from public exposure to reclaimed water.
- It was suggested that permittees be required to develop a certification program that demonstrates they have evaluated the industrial pollutants from a new SIU against human health criteria. With such a program, it would not be necessary to notify the DEQ of each new SIU service connection. As part of the certification program, the permittee would also be required to evaluate the human health impacts of pollutants to be discharged by the new SIU. DEQ staff indicated that the agency's Pretreatment Program coordinator would be consulted to determine the feasibility of using such an approach.

9 VAC 25-740-170 Use are requirements

- Item A., Public notification program – It was felt that the first part of item A. pertained more to public education (...” to ensure that the public is aware of the origin, nature, and characteristics of the reclaimed water, (etc.)...” and should be separated from public notification (e.g., for discharges of reclaimed water to the distribution system that does not meet minimum reclaimed water standards for specific reuses of the end users).
- TAC members felt more definition was needed describing when public notification was required. For example, there should be no need to notify the public of process failure if the reclaimed water is not being used in an area with potential for public contact (i.e. Level 2 reuses). In a restricted access irrigation reuse only the end user would be impacted, not the public, and the biggest concern for that agricultural end user may be interruption of reclaimed water service.
- TAC members also expressed concern as to the need to notify the public each time a bacterial standard for Level 1 is not met. The results for the bacterial analysis are not immediate. Consequently, some non-compliant reclaimed water will have already gone to the distribution system. One TAC member suggested a tiered approach similar to what is used by the VDH for drinking water to determine when notification of the public would be required. This may range from no notice to the general public for minor incidents to carefully worded public messages regarding a major treatment failure that would result in sustained loss of reclaimed water service. DEQ staff will coordinate with the VDH representative on the TAC to rework the public notification language in the regulation.
- Items F.1.c. and e. - These appear to be common sense items affecting irrigation system operation. Enforceability might be problematic. DEQ Staff will revisit these requirements.
- Item F.4.c., “Public access (to sites irrigated with Level 1 reclaimed water) shall not be allowed until the vegetation on the irrigated site is sufficiently dry...” – TAC members considered this requirement too restrictive, particularly when the same water can be used to wash private automobiles. One TAC member indicated that direct contact with Level 1 reclaimed water is not the issue, but rather duration of direct contact. DEQ staff will coordinate with the VDH representative on the TAC to exam how regulations of other states address the issue of contact time.
- One TAC member suggested that all requirements under Item F. of 9 VAC 25-740-170 be reviewed by DEQ staff to determine if they are needed in the regulation or better addressed in agency guidance.
- Item G., setbacks distances for irrigation reuses of reclaimed water - The TAC referred to a spreadsheet that was distributed earlier in the meeting. The spreadsheet, prepared by DEQ staff, compared reclaimed water irrigation setbacks in the proposed regulation with those in the regulations or guidelines of other states. The spreadsheet contained two tables of setbacks for each of Level 1 and Level 2 reclaimed water.
- Large areas of northern Virginia are considered public water supply sources and it would be unrealistic to have setbacks from these areas when irrigation with reclaimed water will be proposed within them. For irrigation with reclaimed water treated to Levels 1 and 2, it was agreed that public water supply sources would be replaced with public water supply intakes. The set back distance should remain 100 feet for irrigation with Level 1 reclaimed water.
- For irrigation with Level 1 reclaimed water, the TAC recommended that setback requirements for surface waters, occupied dwellings and rock outcrops be eliminated. However, a requirement should be added prohibiting direct application to or overspray of surface waters, including wetlands. Also, limestone rock outcrops should be amended to include sinkholes.

- For irrigation with Level 2 reclaimed water, the TAC recommended that:
 - The setback distances for potable water supply wells and springs, or public water supply intakes should be reduced from 500 to 200 feet. This is in line with setback distances in the Sewage Collection and Treatment Regulations for land treatment of comparably disinfected effluent and in the Biosolids Use Regulations for land application of biosolids.
 - The setback for surface waters, including wetlands, should be reduced from 50 to 25 feet.
 - The setbacks for ditches, swales or other structural conveyances; and rock outcrops should be eliminated. The setbacks for improved roadways (not applicable to highway medians) is captured by the setback requirements for property lines at the edge of the road's right-of-way and should also be eliminated. The setback for improved roadways did not apply to highway medians because Level 2 reclaimed water should not be used for irrigation in highway medians.
 - The 200-foot setback for occupied dwellings should remain at 200 feet. A farm setting was offered as an example where exposure could be great. One TAC member provided a Water Quality Division guidance memorandum (issued in 2001 by Larry G. Lawson), which established a 200 foot setback distance from occupied dwellings adjacent to land treatment systems irrigating with effluent comparable in quality to Level 2 reclaimed water.
 - Limestone rock outcrops should be amended to include sinkholes.
 - It was observed that G. 2, which discusses irrigation setbacks for irrigation reuse with Level 2 reclaimed water, includes a paragraph on the reduction of a set back by 50% when it can be demonstrated that alternative measures shall be implemented to provide an equivalent level of public health protection.
- DEQ staff will review the footnotes of the table in 9 VAC 25-740-90 to verify that they do not contain setbacks that conflict with those contained in 9 VAC 25-740-170.
- Item I., setback distances from indoor aesthetic features - Some TAC members felt that 100 feet was too restrictive. A TAC member representing the VDH indicated that Las Vegas uses reclaimed water frequently for indoor aesthetic features. He could contact counterparts there to find out what setback distances they require. DEQ staff will coordinate with VDH staff to determine if this setback distance in the proposed regulation needs to be changed.
- Item J, setback distances from open cooling towers using Level 2 reclaimed water - Some TAC members felt a setback distance of 300 feet to property lines was too restrictive. DEQ staff pointed out that no setback would be required for use of a drift or mist eliminator or Level 1 reclaimed water in the open cooling tower. No alternative setback distance for cooling towers using Level 2 reclaimed water was suggested and the issue was referred to DEQ staff to research further.

At this time, the floor was opened for discussion other sections in Part III of the regulation.

9 VAC 25-740-130 Operator requirements and system reliability

- Item C - There was some confusion over the definition of independent reclamation systems. DEQ staff explained that there may be stand alone reclamation plants that receive waste water streams from more than one treatment facility.

9 VAC 25-740-140 Operations and maintenance

- Item A. – States that the Operation and Maintenance (O&M) Manual shall be approved before a reclamation system, satellite reclamation system or reclaimed water distribution system is placed into operation. One TAC member pointed out that this does not actually occur. As a condition of a

VPDES Permit, the O&M manual is usually submitted within a couple months after operation startup. The language in the regulation should be changed to reflect this. DEQ staff will also verify that the O&M Manual submission requirements are the same for VPA Permits.

- Item B.2.e. - Includes flushing practices. It was agreed that procedures for handling routine flushing should be included in the O& M manual for the reclaimed water distribution system. One TAC member took exception to the term “wastewater” to refer to the reclaimed water that will be present in these distribution systems. It was felt the term “reclaimed water” should be used in place of “wastewater” because the distribution system would be flushed with the reclaimed water already in the system and not wastewater.

9 VAC 25-740-100 Reclaimed water management (RWM) plan

- Item B. – This should include a statement that if you treat to BNR a nutrient management plan is not required, regardless of bulk (>5 acres) or non bulk (<5 acres).
- Item B.2.b. – A new sub item (#5) was added to the regulation just before the TAC meeting and a hard copy of the language was distributed to the TAC for review and comment. DEQ staff provided background on the development of the new language, stating that DEQ at the request of DCR, attempted to address non-point source losses of nutrients to state waters from water reuse, specifically from non-bulk irrigation reuse with reclaimed water not meeting BNR. For other irrigation reuse with non-BNR water, nutrient losses will be minimized through a required nutrient management plan (NMP). Sub item 5 is to specify a percentage of the annual N and P loads to the reclaimed water service area that will be considered losses to state waters for which wastewater treatment plants diverting portions of their discharge to reclamation may not be able to claim credit per the General VPDES Watershed Permit for Nutrient Trading. The exact percentage for the losses is to be established collaboratively by DEQ and DCR. A TAC member representing the DCR requested that the word “incidental” be deleted from the new language, but otherwise supported it. TAC members representing reclaimed water generators emphasized that the percentage should be small and if it were there may not be much opposition to it. No other comments were received.
- Item B.2.a. - TAC members requested clarification of “applicant or permittee shall be responsible for verifying proper implementation of the NMP by the end user”. Some TAC members agreed that it would be unfair to hold the reclaimed water permittee responsible for all aspects of an end user’s NMP. For example, the reclaimed water permittee does not prepare or obtain the NMP and has no control over, expertise in or information relating to an evaluation of the end users application of chemical fertilizers, manure, etc. DEQ staff explained that the permittee will have what they need in place to “verify proper implementation” of the NMP by the end user. The permittee will be monitoring the nutrient content of the reclaimed water and flow to the end user, which will allow the permittee to calculate nutrient loading rates for comparison with what’s required in the end user’s NMP. DEQ will not have this information. DEQ staff agreed to look at this issue further.
- Additional discussion covered the generators approved RWM plan, which includes examples of sample contracts for end users. As end users come on line, the supplier of the reclaimed water will ensure that a NMP is submitted when required, as part of the agreement or contract between the supplier and the end user.
- Some TAC members expressed concern over the effect that a NMP, when required by the applicant or permittee (e.g., when the generator is also the irrigation end user), would have on the processing time for a permit. It was noted that permit processing times are established in permitting regulation. If development of the NMP and approval of the NMP by DCR could delay permit

processing, it may be necessary for DEQ to establish a Memorandum of Understanding with DCR regarding review and approval timelines for NMPs in this particular situation. DEQ staff will look at this issue further.

9 VAC 25-740-110 Construction requirements

- Item B. - Members supported elimination of “change of 25 percent or more capacity or performance capability” in the proposed language as changes of lesser magnitude could also warrant a certificate to construct. Many changes, particularly related to operations, should be addressed in the O&M Manual rather than opening up a permit. DEQ staff agreed. However, it was reiterated that any significant construction, expansion, or modification has to have Board approval prior to initiating the work.
- Item B.2.c.2. – This is more applicable to the Certificate to Operate (CTO) and will be moved under B.3. CTO.

Near the conclusion of the meeting, Dr. Gilinsky reviewed the next steps which are to combine all three parts of the regulation into one draft document. The minutes from the meeting will be distributed in the next week with comments due on 12/19/06. Any additional comments on Part III should be submitted by TAC members at the same time.

Dr. Gilinsky reiterated that the draft regulation will be distributed one more time for TAC member comments in January. Comments should be limited to substantive issues, defined as “deal breakers”, which will be brought to Dr. Gilinsky’s attention. The final draft of the regulation for submission to the State Water Control Board will be completed at the end of January. The TAC will receive a copy of this draft as well.

In the remaining time of the meeting, public comments were solicited. Mr. Nagelvoort expressed concern over the need to identify karst features 500 feet beyond the boundaries of each bulk irrigation reuse site. He also expressed concern regarding NMP requirements for bulk irrigation reuse indicating that processing times for NMPs will be problematic.

The TAC meeting adjourned at approximately 3:15 p.m.